

this understory is dense and made up of a luxuriant growth of large herbs and shrubs, it is prima facie evidence that the trees are not making full use of the land they occupy. Good forestry requires that the land be fully productive of usable products and it is the duty of the forester to manage his land to bring this about.

Thus we see that in the mesophytic forest, nature allows very little sunlight to go unutilized. With little

effort from man, compared with that demanded by agricultural crops, our forests could, if necessary, supply a very large percentage of our total energy requirement. Hence, should the world's coal supply eventually approach exhaustion it may still be possible to maintain a highly developed industrial civilization by making full use of the other sources of energy in which the energy storing capacity of forests will play a vital role.

ABSTRACTS, MINNEAPOLIS MEETING, JUNE, 1935

Spray-Service Weather Forecasts [in New York]¹

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"There is nothing so important as weather in spring of the year in the fruit country. Orchardists who hope to market fruit in good condition have spraying problems. Spraying can be done effectively only when fair weather and light winds prevail, and if weather conditions should be unsatisfactory for too long a period, the problem of obtaining control over insects and diseases becomes more complicated.

When the wind blows there is not much use spraying. Unless each bud and twig is covered thoroughly the job is only half-done. When the wind blows the aphids seek protection on the lee side. Spraying against heavy wind leaves them unscathed.

Rain spreads scab. The scab spores require moisture to bring them to life. Cool weather favors growers. With the temperature below 40 it takes perhaps a day and a half to two days for a scab infestation to start. With a temperature around 70 it is a matter of a few hours.

The State College of Agriculture, the Weather Bureau and the County Farm Bureaus co-operate in a highly specialized spray service. There are certain periods when sprays must be applied to be most effective. It is important they be applied before a rain, which scatters disease spores.

Spray does not wash off with rain, as some laymen might think. It dries much as paint. Any of these sprays may be critical to the development of a crop of fruit. No one can at the moment suggest dates of the pre-

blossom spray. It depends upon the weather. If the temperature is warm and balmy for a number of days the blossom leaves literally will leap out of their shells.

If there is rainy weather up to pre-blossom time scab control will be more difficult. Two years ago in western New York areas rain prevented application of the pre-blossom spray in time. A result was scab got beyond control, blossoms dropped off and hopes of harvesting a decent apple crop on those trees were gone.

The spray service plans to give prompt information to growers throughout the season. Often county agents are on the telephone with the Weather Bureau and key men throughout the night trying to get the right "dope" on the weather.

Then postal card notices may be mimeographed and delivered to post offices at the last possible moment before rural carriers leave on their routes.

So at this season between rains the atmosphere of the countryside is laden with the odor of lime-sulphur. One is reminded the fruit grower is rallying to the annual combat with his natural enemies."—*Excerpts from "New York State Farming Facts," a newspaper feature column by L. B. Skeffington, 1935; courtesy J. C. Fisher, U. S. Wea. Bur., Ithaca, N. Y.*

¹The New York Spray—weather forecasting is also described by Mr. Fisher in the June-July, 1926, BULLETIN, pp. 85-87, and by E. B. Calvert in the Jan., 1925, BULLETIN, pp. 15-16.